This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) A ~~Battery~~ battery arranged on ~~with~~ an electrically non-conductive substrate ~~on which it is arranged~~, ~~further~~ comprising at least one cathode, one anode, and a separator/electrolyte layer in the form of at least one of layers ~~or~~ and foils that are preformed ~~from~~ using an electrochemically active or activable material ~~and optionally a polymer matrix and/or further auxiliary substances~~, in corresponding sequence on the substrate, wherein [[the]] a layer thickness of each electrode layer is >10 µm, at least one current diverter and at least one battery contact that are respectively in electrical contact with an electrode;~~, characterized in that~~ wherein the battery comprises at least one first covering layer consisting of a first electrically insulating material that is stable in relation to the used electrolyte and electrode material and has been deposited from at least one of a ~~the~~ gas phase ~~or in form of~~ and a liquid or viscous paste, the covering layer ~~forms~~ forming an encapsulation with at least one of (a) the substrate and (b) the substrate together with ~~optionally with~~ at least one other component, by which the battery is sealed from the surrounding environment, wherein the deposited electrically insulating material ~~and which~~ is provided with at least one ~~recess~~ opening that is filled and closed by an electrically conductive material ~~and which are~~ connected to at least one current diverter of the battery.

2. (Currently Amended) A ~~Battery~~ battery according to claim 1, which comprises on top of the first covering layer a second covering layer of either a material as defined for the first covering layer or a second electrically conductive material which was also deposited from the gas phase or in the form of a liquid or viscous paste.

3. (Currently Amended) A ~~Battery~~ battery according to claim 2, comprising a first, a second, and a fourth covering layer made of a first electrically insulating material that is stable in relation to the used electrolyte and electrode material, deposited from the gas phase or in the form of a liquid or viscous paste, and a third covering layer made of a second electrically conductive material which was also deposited from the gas phase or in the form of a liquid or viscous paste, wherein the first material of the first, second, and fourth covering layer can be similar or divers.

4. (Currently Amended) A ~~Battery~~ battery according to claim 1, characterized in that the battery is covered by a second electrically non-conductive substrate as further component in such a manner that the open border regions between these substrates are sealed by the covering layer(s).

5. (Currently Amended) A ~~Battery~~ battery according to claim 1, characterized in that the battery is covered by a current diverter in the form of a persistent metal sheet as further component in such a manner that the open border regions between the substrate and the current diverter are sealed by the covering layer(s).

6. (Currently Amended) A ~~Battery~~ battery according to claim 1, characterized in that the substrate or the substrates is/are (a) silicon wafer, the system carrier foil of a chip card or ([[a]] b) flexible polymer substrate(s).

7. (Currently Amended) A ~~Battery~~ battery according to claim 1, characterized in that at least the upper or top current diverter has the form of a flexible prefabricated foil.

8. (Currently Amended) A ~~Battery~~ battery according to claim 1, characterized in that the battery contact positioned on the substrate has the form of a metallization or of a metallic layer glued on the substrate.

9. (Currently Amended) A ~~Battery~~ battery according to claim 8, characterized in that the metallization or metallic layer is structured in such a manner that it forms beside the mentioned battery contact a second, from the mentioned battery contact separated battery contact for the counter electrode which is outside the encapsulation and that the substrate optionally has feedthroughs [[(3)]] which lead away from both battery contacts through the substrate.

10. (Currently Amended) A ~~Battery~~ battery according to claim 9, characterized in that the material ~~of the one or~~ of the at least one ~~recess~~ opening sealed with an electrically conductive material is in conductive contact by means of a layer of electrically conductive material with the second battery contact or that this material is a component of the mentioned layer made of electrically conductive material which is in conductive contact with the second battery contact.

11. (Currently Amended) A ~~Battery~~ battery according to claim 1, characterized in that the electrically conductive material with which the ~~recess(es)~~ opening(s) are sealed, is a metal or metal alloy.

12. (Currently Amended) A ~~Battery~~ battery according to claim 1, characterized in that the first electrically insulating material of the covering layer is selected from parylene, non-conductive inorganic-organic polymeric materials with battery properties, Al_2O_3, SiO_2, SiO_yN_x, and epoxy resins.

13. (Currently Amended) A ~~Battery~~ battery according to claim 8, characterized in that the second battery contact is formed as frame-shaped metallization which is laid around the first battery contact, and that the mentioned electrically conductive material covers the complete battery and is in persistent contact with the metallization.

14. (Currently Amended) A ~~Battery~~ battery according to claim 1, further comprising an entry channel to the separator/electrolyte layer which extends through the substrate and is sealed or can be sealed from the surrounding environment.

15. (Currently Amended) A ~~Battery~~ battery according to claim 1, characterized in that the battery comprises a multiple sequence of electrodes and separator/electrolyte layers in the form of flexible prefabricated foils made of electrochemically active or activable material ~~and optionally a polymer matrix and/or further auxiliary substances~~, wherein each a current diverter is positioned between two rectified electrodes and a separator/electrolyte layer is positioned between two counter

directed electrodes, and wherein all current diverters which are in contact with the electrodes of equal polarity, are in contact with a recess respectively which is sealed with an electrically conductive material, and wherein the recesses are in conductive contact with structured metallizations in such a manner that a conductive contact is present between each the electrically rectified current diverters and one of two battery contacts and/or one of two feedthrough(s) which lead away through the substrate.

16. (Currently Amended) A ~~Plurality~~ plurality of batteries according to claim 1, characterized in that each battery is positioned on the same electrically non-conductive substrate.

17. (Currently Amended) A ~~Plurality~~ plurality of batteries according to claim 16, characterized in that the electrodes, electrolyte layers and current diverters of each battery are arranged in the same plane.

18. (Currently Amended) Use of at least one battery according to claim 1 in a system with independent energy source positioned on a silicon wafer or chip, characterized in that the electrically non-conductive substrate of the at least one battery~~(ies)~~ is part of the silicon wafer or chip.

19. (Currently Amended) Use according to claim 18, wherein the system further comprises at least one solar cell, which is preferably positioned on the opposite side of at least one ~~the or one~~ of the substrate(s).

20. (Currently Amended) Method of manufacturing a battery ~~according to claim 1~~ comprising the following steps:

(i) Providing a substrate,

(ii) Applying a battery contact layer on the substrate,

(iii) Applying an electrode layer, in a layer thickness of ≥ 10 µm

(iv) Applying a separator/electrolyte layer on the electrode layer,

(v) Applying a counter electrode layer on the separator/electrolyte layer, in a layer thickness of ≥ 10 µm, wherein the electrode and separator/electrolyte layers are applied in the form of at least one of layers and foils that are preformed using an electromechanically active or activatable material,

(vi) Applying a current diverter layer, wherein the steps (ii) to (vi) can be performed at least one of subsequently ~~or~~ and simultaneously ~~or~~ and wherein at first step (ii) and then at the same time steps (iii) to (vi) may be performed, or wherein at first step (ii) is performed and then the steps (iii) to (vi) are repeated several times simultaneously or subsequently ~~in suitable order~~,

(vii) Applying a first covering layer consisting of a first electrically insulating material that is stable in relation to the used electrolyte and electrode material from [[the]] a gas phase or in the form of a liquid or viscous paste ~~and optionally a second covering layer consisting of either a material as defined for the first covering layer or a second electrically conductive material which was also deposited from the gas phase or~~

~~in form of a liquid or viscous paste, and optionally further covering layers of the first or the second material~~ in such a manner that the[[se]] covering layer[[(s)]], together with at least one of (a) the substrate and (b) the substrate in combination with further component(s), forms ~~together with the substrate and optionally (a) further component s(s)~~ an encapsulation through which the battery is sealed from the surrounding environment,

(viii) Removing material of the covering layer[[(s)]] in such a manner that at least one persistent ~~recess~~ opening is formed which uncovers at least one current diverter of the battery, and

(ix) Sealing ~~of~~ the ~~recess(es)~~ opening with an electrically conductive material in such a manner that the electrically conductive material comes into contact with at least one current diverter of the battery.

21. (Currently Amended) Method according to claim 20, characterized in that a structured layer of electrically conductive material is deposited on the at least one ~~recess(es)~~ opening which is sealed with electrically conductive material in such a manner that this material forms a conductive contact between the ~~(single) recess~~ opening or those ~~recesses~~ openings which are in contact with the current diverters with counter polarity of the battery contact, and the separated battery contact.

22. (Currently Amended) Method according to claim 21, wherein the steps (iii) to (vi) are performed at least one of simultaneously ~~or~~ and subsequently several times in such a manner that each [[a]] current diverter is positioned between two

rectified electrodes and a separator/electrolyte layer is positioned between two counter directed electrodes, wherein the removal of material of covering layer[[(s)]] according to step (viii) is performed in such a manner that substantially all current diverters of the battery are uncovered, so that subsequently all recesses[[(es)]] can be sealed according to step (ix) with an electrically conductive material and that a conductive contact between all current diverters which are in contact with electrodes of equal polarity, and the corresponding battery contact, and/or one of both feedthroughs[[(s)]] is achieved.

23. (Original) Method according to claim 22, characterized in that the sealing of the recesses and the manufacture of a conductive contact is performed in subsequent steps or in a single step by applying a structured metallization.

24. (Original) Method according to claim 1, characterized in that the battery contact layer is deposited by deposition of metal from the gas phase and especially by vacuum deposition.

25. (Original) Method according to claim 24, characterized in that the battery contact layer is deposited in a structured manner or is structured after its deposition so that it forms beside the mentioned battery contact a second battery contact for the counter electrode which is separated from the mentioned battery contact, which is outside the encapsulation, wherein as substrate a substrate is used which has feedthroughs which are arranged in such a manner that they lead away from both battery contacts through the substrate.

26. (Currently Amended) Method for manufacturing a plurality of batteries ~~according to claim 16~~ comprising the following steps:

(i) Providing a substrate,

(ii) Applying, per battery, a structured battery contact layer with ~~each~~ two contacts ~~per battery on the substrate~~,

(iii) Applying, per battery, a structured electrode layer with each an electrode surface ~~(4) per battery~~, the electrode layer having a thickness of ≥ 10 µm,

wherein the electrode and separator/electrolyte layers are applied in the form of at least one of layers and foils that are preformed using an electrochemically active or activatable material,

(iv) Applying, per battery, a structured separator/electrolyte layer with ~~each~~ a separator/electrolyte surface ~~per battery~~ in such a manner that said layer ~~they cover~~ at least one of (a) substantially covers the electrode surfaces of the layer of step (iii), ~~or~~ (b) exactly covers the said electrode surfaces, [[or]] and (c) slightly extends ~~slightly~~ over said ~~these~~ electrode surfaces ~~of the layer of step (iii)~~,

(v) Applying, per battery, a structured counter electrode layer with [[each]] an electrode surface ~~per battery~~ in such a manner that ~~they cover~~ said layer at least one of (a) substantially covers the separator/electrolyte surfaces of the layer of step (iv), (b) exactly covers the separator/electrolyte surfaces, [[or]] and (c) forms a slight recess in comparison to the [[said]] separator/electrolyte surfaces ~~them slightly before the~~

~~separator/electrolyte layers of the layer of step (iv)~~, the counter electrode layer having a thickness of ≥ 10 µm,

(vi) Applying, per battery, a structured current diverter layer with ~~each~~ a current diverter surface ~~per battery~~ in such a manner that ~~they cover~~ the layer at least one of (a) substantially covers the underlying electrode surface, [[or]] (b) exactly covers the underlying electrode surface, and (c) slightly extends ~~slightly~~ over the underlying electrode surface,

wherein the steps (ii) to (vi) can be performed at least one of subsequently ~~or~~ and simultaneously or wherein at first step (ii) and then at the same time steps (iii) to (vi) may be performed, or wherein at first step (ii) is performed and then the steps (iii) to (vi) are repeated at least one of several times simultaneously ~~or~~ and subsequently ~~in suitable order~~,

(vii) Applying a first covering layer of a first electrically insulating material that is stable in relation to the used electrolyte and electrode material from a ~~the~~ gas phase or in the form of a liquid or viscous paste ~~and optionally a second covering layer of either a material as defined for the first covering layer or a second electrically conductive material which was also deposited from the gas phase or in form of a liquid or viscous paste, and optionally further covering layers of the first or the second material~~ in such a manner that the[[se]] covering layer[[(s)]] form[[(s)]], together with at least one of (a) the substrate and (b) the substrate in combination with one or more further components,

~~with the substrate und optionally (a) further component(s)~~ a separate encapsulation for each battery through which the batteries are sealed from the surrounding environment,

(viii) Removing material of the covering layer~~s(s)~~ in such a manner that at least one persistent ~~recess~~ opening is formed per battery which uncovers at least one current diverter of the battery, and

(ix) Sealing of the ~~recess(es)~~ openings with an electrically conductive material, in such a manner that the electrically conductive material of each recess comes into contact with at least one current diverter of the corresponding battery.

27. (Original) Method according to claim 20, characterized in that a part of or all steps (iii) to (vi) are performed by depositing prestructured materials which are provided on a support carrier.

28. (Original) Method according to claim 27, characterized in that the prestructured materials are deposited on the support carrier by means of a printing method or by means of lithographic methods and etching methods or were structured on the support carrier by means of methods such as laser structuring, water jet processing or mechanical removal.

29. (Original) Method according to claim 26, characterized in that the removal is performed mechanically by generating persistent channels, wherein each channel uncovers simultaneously several current diverters.

30. (Original) Method according to claim 20, characterized in that a part of or all steps (iii) to (vi) are performed by applying persistent layers which are structured after the application.

31. (Original) Method according to claim 30, characterized in that the structurings are performed by means of lithographic methods, etching methods and/or pattern processes.

32. (Original) Method according to claim 30, characterized in that the persistent layers are applied lying on a support carrier and then this is removed.

33. (Currently amended) Method according to claim 30, characterized in that the materials of the layers are self-supporting foils.

34. (Original) Method according to claim 20, wherein the layers are laminated on.

35. (Original) Method according to claim 24, characterized in that the structuring of the battery contact layer is performed by means of a mechanical method such as water jet processing, by laser processing, chemically by chemical etching, by galvanic methods and/or by means of patterns.

36. (Original) Method according to claim 20, characterized in that prior to applying the first covering layer a drying is performed in an inert gas oven or under vacuum.

37. (Original) Method according to claim 20, characterized in that the separator/electrolyte layer and if necessary the electrode layers are filled with electrolyte fluid and the battery is formed prior to encapsulation.

38. (Original) Method according to claim 20, characterized in that besides the removal of material of the covering layer(s) according to step (vii) for uncovering of at least one current diverter further material is removed from this/these layer(s) in such a manner that an uncovering of the separator/electrolyte layer is performed, wherein the uncovered separator/electrolyte layer is filled with electrolyte fluid and the recess(es) formed by the removal is/are then sealed again.

39. (Original) Method according to claim 20, characterized in that the separator/electrolyte layer is filled with electrolyte fluid via a channel in the substrate and then the channel is sealed whereupon the battery is formed.

40. (Original) Method according to claim 20, characterized in that the removal of material of the covering layer(s) according to step (vii) is performed by means of plasma-enhanced methods, especially reactive ion etching or ion bombardment, by wet-chemical etching, by laser processing or by a mechanical method such as sawing, milling or water jet processing, wherein the etching methods comprise a lithography step for transferring the contact image.

41. (Original) Method of manufacturing a battery according to claim 20, characterized in that by means of the method according to 26 a plurality of batteries is

manufactured and that these are then isolated by separating the substrate between the batteries.

42. (Original) Use of a plurality of batteries according to claim 16 in a system with independent energy source positioned on a silicon wafer or chip, characterized in that the electrically non-conductive substrate of the batteries is part of the silicon wafer or chip.

43. (New) The method according to claim 20, wherein in step (vii), one of (a) a second covering layer consisting of either a material as defined for the first covering layer or a second electrically conductive material which was also deposited from the gas phase or in the form of a liquid or viscous paste, and (b) a second covering layer together with further covering layers of the first or the second material is applied in such a manner that the first covering layer and the said second or said second and further covering layer(s), together with at least one of the substrate and the substrate in combination with (a) further component(s), form an encapsulation through which the battery is sealed from the surrounding environment.

44. (New) The method according to claim 26, wherein in step (vii) one of (a) a second covering layer consisting of either a material as defined for the first covering layer or a second electrically conductive material which was also deposited from the gas phase or in form of a liquid or viscous paste, and (b) a second covering layer together with further covering layers of the first or the second material is applied in such a manner that the first covering layer and the said second or said second and further

covering layer(s), together with at least one of the substrate and the substrate in combination with (a) further component(s), form an encapsulation through which the battery is sealed from the surrounding environment.